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PPR630 Integrated monitoring system for drains and other tubular structures

The project investigated technologies suitable for continuous monitoring of non-pressurised tubular structures, with a particular focus on surface water highway drainage systems. Failures on the motorway and trunk road networks often resulting from heavy rainfall occur because drains are not able to cope with the large volume of water they suddenly have to evacuate. Currently the assessment of these drains is carried out every 10 years using visual (closed circuit television - CCTV) or manual (mandrel) techniques to identify structural failures, with additional reactive assessments undertaken if issues (blockages or build-up of debris) requiring immediate treatment arise. It is thought that the routine assessments aimed at identifying structural failures will always be necessary to some extent; however the reactive approach to dealing with emergencies is less than ideal. Hence, there is a potential need for continuous monitoring that would be able to provide real-time or near real-time information about the state of a drainage network. Research was therefore carried out into a drain condition monitoring system which could be permanently installed and left in operation unattended.

Author M Harrington and J Iaquina

Pages 22

Date 05/12/2012

Reference PPR630

ISBN 978-1-908855-26-8 ISSN 0968-4093

PPR635 Why do older drivers have more 'failed to look' crashes? A simulator based study

With an increase in life expectancy comes an increase in the proportion of older drivers. Various crash studies and surveys have shown that older drivers are particularly over-represented in crashes at intersections, where typically the older driver turns against oncoming traffic with right of way on the main road. This study aimed to investigate the correlation between 'failed to look' errors, which previous studies have identified as a key factor in crashes involving older drivers, and visuo-cognitive deficits. The first phase of the study reviewed relevant literature to provide a background to the cognitive and visual measures used. The second phase of the study included simulator and laboratory based tests of visual and cognitive performance, in general and when driving. The study demonstrated that older drivers tend to have reduced visual capabilities. In many respects, their experience enables them to compensate for these deficiencies. However, some specific changes in behaviour were observed that seem strongly linked to the tendency for older drivers to be over-represented in 'failed to look' accidents. Support for older drivers to improve performance through training and/or support technologies may help to tackle this problem, although any intervention would require evaluation and validation of effectiveness.

Author N Reed, N Kinnear & L. Weaver

Pages 64

Date 30/11/2012

Reference PPR635

ISBN 978-1-908855-24-4 ISSN 0968-4093

PPR564 The skid resistance behaviour of thin surface course systems

Proprietary thin surface course systems have been successfully used on UK trunk roads for over 10 years, providing quiet surfaces while maintaining good friction when the road is wet. However, the process of approving them focussed on compliance with existing specifications that had been derived from the properties of traditional materials such as hot rolled asphalt (HRA) and surface dressings, prevalent at the time. Collaborative research sponsored by Highways Agency

(HA), the Mineral Products Association (MPA), the Refined Bitumen Association (RBA) sought to optimise requirements for thin surface course systems to maintain safety standards, further improve durability and make more efficient use of resources. Skid resistance and texture depth were monitored on a range of trial sites, constructed specifically for the project, and in-depth laboratory studies were developed to help give a better understanding of the effects observed in the field. The results from the project have made it possible to make recommendations for changes to the requirements for thin surface course systems regarding the polish resistance of aggregates and texture depth with reference to the size of coarse aggregate in use.

Author	P G Roe and A Dunford	Pages	62
Date	29/11/2012	Reference	PPR564
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PPR576 HGV speed limit increase evaluation: final report

The Department for Transport (DfT) commissioned the Transport Research Laboratory (TRL) to provide an evidence-base, analysis and reasoned opinion on whether or not there is likely to be any road safety risk involved in increasing the speed limit of HGVs exceeding 7.5 tonnes on single carriageway de-restricted roads from 40mph to 50mph (or possibly 45mph). Based on analyses of accident data sources Stats19, On-The-Spot (OTS), and the Heavy Vehicle Crash Injury Study (HVCIS), analysis suggests that the maximum potential increase in the average speed would be about 3mph and an increase in HGV21 speed would be likely to make only a small difference to the number of fatal accidents.

Author	I Summersgill, G Buckle, T Robinson and S Smith	Pages	32
Date	09/11/2012	Reference	PPR576
ISBN	978-1-84608-967-1	ISSN	0968-4093

QWIRC8 Rapid-cure foamed concrete - a technique to reduce congestion

QWIRC Note 8: Rapid-cure foamed concrete - a technique to reduce congestion. Please note, this report is only available as a pdf download.

Author	TRL	Pages	4
Date	30/11/2012	Reference	QWIRC8

QWIRC7 Extended working hours - a technique to reduce congestion

QWIRC Note 7: Extended working hours - a technique to reduce congestion. Please note, this report is only available as a pdf download.

Author	TRL	Pages	4
Date	23/11/2012	Reference	QWIRC7